NOMADS Milestones FY03
Milestones submitted to Vose 10/21/02

Status Report 3/14/2003
Rutledge CAB

1) Develop NOMADS Program Plan and Milestones. (Rutledge; NOMADS Team (NT)) Due: 1/03

   Status: 1st DRAFT completed. Final in progress 4/15

2) Install and configure NOAAPort Data Stream NCEP model out grids for GrADS-Data Server (GDS) on NOMADS systems. (Primary: Brinegar; Backup: Smith) Due: 1/03

   Status: Completed. NOMADS Data Access Page GrADS-DODS (OPeNDAP) Server (GDS) now open to public (And now developing metrics processes to monitor usage). See http://nomads.ncdc.noaa.gov:9090/index.html

3) Develop local NCDC NOMADS Web page: describe project; collaborators; how to use NOMADS etc. using NCDC Web compliance structures and systems (Web farm, 508) (Rutledge; NT; Brinegar) Due 2/03

   Status: NOMADS Informational Web Page Completed. See http://ncdc.noaa.gov/oa/climate/nomads/nomads.html

4) Develop and implement operational ingest and archive of NCEP Global Data Assimilation System Spectral Statistical Interpolation (GDAS/SSI) input fields from NCEP ftp services. (Brinegar; Smith; Bowman; Shumbura). Due: (tentative- based upon NCEP availability) 2/03

   Status: Completed. Operational GDAS ingest being archived under TD#6172 with completed FGDC documentation reviewed through AAB.

5) Install Argonne National Laboratory's GLOBUS grid toolkit on new CEOS-Grid LINUX server NOMADS-4. Maintain monthly telecon's with the CEOS-Grid Team. (Brinegar; Smith; Rutledge) Due 3/03

   Status: CEOS-Grid Server and Network configuration completed. GLOBUS Toolkit install completed.

6) Determine data structures for HDSS archive for best scientific access to data sets. Determine need for reprocessing/realignment of existing NOAAPort archive (Lott; Rutledge; Brinegar; Ross; Smith) 4/03

   Status: In Progress and ahead of schedule.

7) Install CDAT-LAS on NCDC NOMADS systems. Configure for NOAAPort grids, and external data retrieval including PCMDI, NCAR, GFDL, PMEL, CDC, NCEP). 5/03

   Status: In progress on schedule. Conducted LAS training by Steve Hankin; Hankin provides Center-wide briefing on LAS/OPeNDAP.

   Note: Dr. Eakin submits ESDIM proposal to fund the work necessary to serve paleo data sets via the NCDC NOMADS.   Rutledge co-PI. The work would include LAS install at NCDC.

8) Develop unified NOMADS Team (NT) Web interface. (NT; Rutledge; Brinegar; Smith). 6/03

   Status: On schedule. Lead by Chris Kerr (GFDL), Glenn Rutledge, and Dean Williams (LLNL) the NT implements an International inter-agency working group with NOMADS as a sub-set of potential users. The group is called the Earth Science Portal (ESP) development group. The goals include data usage, metadata analysis, across participants- NOAA, NASA, NCAR, Unidata, DOE, UK, others to develop a common Web interface to easily navigate, discover, and retrieve (in multiple formats), models (GCM/NWP) and data.   A NOMADS/ESP SorceForge CVS repository established at http://sourceforge.net/projects/esportal/ and user friendly Homepage at http://nomads.gfdl.noaa.gov/~ck/esp/webpages/

9) Make reference data sets available on NOMADS servers (Brinegar; Rutledge; Williams; Durre; Lott) Due 7/03: "Post-CARDS"; HCHN; Integrated Surface Hourly (ISH).

   Status: Developing division level working groups and/or advisory teams to eliminate duplication of effort across Divisions. Move due date to FY04.

10) Develop NOMADS disk to NCDC HAS archive interface with Climate Services Division, Data Access Branch (N. Lott/D. Ross). Access to retrospective NOAAPort model output grids; and NCEP GSM. (Smith; Brinegar; Rutledge) 9/03

   Status: In progress. Obtained HAS documentation and developed agreements for a NOMADS collaborator (COLA) to develop stategy for disk to archive interface.

11) Develop NOMADS Steering Committee including NOAA, DOE, NASA, NSF, Institutional and International partners. Due: 10/03

   Status: Completed.

Additional Accomplishments beyond Projected Milestones
3/11/2003

The following items are included as additional work competed, or in progress that either meet long term NOMADS objectives, or develop additional partnerships that advance the distributed data access.

12) GFDL has funded a Web designer for NCDC and GFDL to develop this unified Web Portal for both GFDL (climate data), and for NWP/Reanalysis etc. data for NCDC. The work performed by this Raytheon contractor for NCDC will include time here gathering requirements, and developing NCDC-specific goals for NOMADS access and the design interface itself for implementation at NCDC and NCEP or any collaborator (FSL) that wants the interface.

13) Rob Mairs memo detailing importance of Rutledge imitated NOMADS CEOS-Grid effort reflecting well on LO and on the Agency.

14) Rutledge accepts invitation to serve on the UK's Natural Environment Research Council (NERC) DataGrid Advisory Board. NERC is the UK's equivalent to the National Science Foundation.

15) Rutledge develops letter of support with DO's office at the request of URI (P. Cornilion) to collaborate under NSF OPeNDAP proposal.

16) Rutledge accepts a NASA invitation to the Geophysical Data Exploration for Seasonal to Interannual Climate (GeoDESIC) Advisory Board. GeoDESIC is a distributed data access and analysis information center that supports research in a variety of climate-related communities.

17) Rutledge accepts Kelvin Droegemeier (University of OK) invitation to collaborate (co-PI) and develop letter of support for a large NSF ITR proposal called LEAD (Linked Environmental Analysis and Distribution). For use mainly in real-time severe storm detection and analysis, LEAD will provide additional options and interfaces for NOMADS, and would provide NOMADS compatible access to satellite, radar, and other data forms.

18) Rutledge accepts invitation to serve on the 2003 High-Performance Computing Symposium, Program Committee for the Advanced Simulation Technologies Conference that will be held in Orland, Florida. I reviewed several papers on large-scale numerical applications in numerical modeling. See
http://www.cs.msstate.edu/~graphics/hpc2003/

19) Rutledge accepting invitation to brief NOMADS at the Tenth ECMWF Workshop on the Use of High Performance Computing in Meteorology Realizing TeraComputing in Reading, UK on. Several Meeting also conducted with Bryan Lawrence, Don Middleton and other NOMADS partner's after hours to develop Grid portal access to NOMADS Web portals. The result of these meeting was the development of the Earth Science Portal (#8 above).

20) NOAA's Forecast Systems Laboratory (FSL) accepts invitation to collaborate under NOMADS.

21) Gen. Kelly (NWS) briefed on NOMADS and NWS/IA requests NCDC NOMADS to channel funds to COLA to develop third world remote NOMADS-based model and

model initialization project. Rutledge to help write sole source, SOW, and monitor progress (and possibly COTR) the effort. Year one ~200K, year two: ~400K. Details tdb.

22) The World Climate research Program (WCRP), Data Management group is also being briefed on NOMADS by Bryant McAvaney of BMRC (Australia)

23) At Ron Stouffer's request, developed and received NOMADS collaboration with Eric Guilyardi (European model coding framework called PRISM).

24) Submitted a funding request to Bill Murray (NOAA-OGP) to conduct a NOMADS science workshop at NCDC this Summer/Fall, to provide science oversight and develop data and system requirements for NOMADS.

25) Submitted two proposals to the ERCWC Supercomputer effort. One short term for NOMADS like services. The second, a DOE/PCMDI joint effort to develop model analysis and assimilation to RAOB QC methodology. M. Fiorino/Rutledge.

26) Rutledge/DO's office developing a strategy for both science based and data management planning meeting. For near term a subset of core participants (NCEP, NCDC, GFDL), to discuss science drivers for NOMADS and data management approaches based upon these drivers. A potentially larger international data management meeting during FY04 is also being discussed. These efforts undertaken since Tom Karl requests the possible use of the NOMADS for the next IPCC Assessment.

27) Vose initiates weekly NOMADS meetings. Rutledge develops tracking mechanism providing week-to-week progress, status or issues for each short term goal for the entire NOMADS Team, which are linked to the yearly milestones (this document).

28) Rutledge initiates NOMADSDev mailing list. NOMADSDev is a threaded email list and searchable archive of all NOMADS correspondence, partners, and interested personnel. NOMADSDev is hosted and maintained at CDC (D Hooper).

29) Invited participant to the NCAR hosted NSF Cyber-Infrastructure meeting to develop interoperability across the atmospheric community. Asked to lead a breakout session with Tim Killeen (Director, NCAR), and Peter Cornilion (URI) on requirements. NOMADS seen as the NOAA component to the larger NSF effort.

30) Rutledge receives NCEP (Kalney, Messinger/DiMego) request to archive the North American Regional Reanalysis (NARR) on NOMADS.

31) Two years ago, Rutledge requests Dr. Mike Fiorino (PCMDI) to consider working at NCDC/NOMADS. Literally at the same time, I receive a call from Dr. Fiorino indicating he would like to work at NCDC under NOAMDS- and Russ Vose informs me a new NOMADS fte will shortly be posted. I highly recommend this individual for this position.

32) Rutledge, Neville Smith, Bryan Lawrence IIPS Paper at 2003 AMS presented by Dr. Jordan Alpert (NCEP).

Selected Items by Organization

Note: As NOMADS Project PI, Rutledge is proactively involved with many of the external efforts currently on-going at Universities, Institutions both U.S. and abroad.

NCEP- Hires new NOMADS Software Engineer.
GFDL- Hires new NOMADS Web Portal Designer/Software Engineer
PMEL- Links LAS to OPeNDAP. Still, LAS considered a good browsing tool, and not
      planned for mainstream NOMADS operations (too difficult to search/retrieve).
CDC- Develops and maintains NOMADSDev (#26 above)
LLNL- Links the Climate Data Analysis Tools (CDAT) to LAS
BADC- Hires Web Portal Software Engineer. Plans to expand European access for
research.